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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/921,406

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Zohar Yakhini

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04/28/2006

EXAMINER

AGILENT TECHNOLOGIES, INC.

INTELLECTUAL PROPERTY ADMINISTRATION, LEGAL DEPT.

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LOVELAND, CO 80537-0599

HALVORSON, MARK

ART UNIT

PAPER NUMBER

1642

DATE MAILED: 04/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/921,406	<b>Applicant(s)</b> YAKHINI ET AL.	
	<b>Examiner</b> Gary B. Nickol Ph.D.	<b>Art Unit</b> 1642	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 March 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1, 4 and 25-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4 is/are allowed.
- 6) ☒ Claim(s) 1, 26, 28 and 30-33 is/are rejected.
- 7) ☒ Claim(s) 25, 27 and 29 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Response to Amendment***

The Amendment filed 03-27-2006 in response to the Final Office Action of 12-27-2005 is acknowledged and has been entered.

Claims 1, 4, and 25-33 are currently under consideration.

**The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office Action.**

**Rejections withdrawn:**

Upon review and reconsideration, and in view of applicant's arguments, the rejection of Claims 1, and 26-33 under 35 U.S.C. 102(a) as being anticipated by Bittner *et al.* (Nature, Vol. 406, 3 August 2000, pages 536-560, IDS) is **withdrawn**.

The affidavit filed on 09-22-2005 under 37 CFR 1.131 is sufficient to overcome the Bittner *et al.* reference.

**All other rejections and or objections are withdrawn in view of applicant's amendments and arguments there to.**

**New Rejections:**

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Claims 1, 26, 28, and 30-33 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a method of diagnosing an aggressive form of malignant melanoma comprising analyzing and comparing Wnt5a expression in pair-matched tumor cluster tumor samples, does not reasonably provide enablement for diagnosing any and all aggressive forms of cancer. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to practice the invention commensurate in scope with these claims.

Factors to be considered in determining whether undue experimentation is required, are summarized in *In re Wands*, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988). There are many factors to be considered when determining whether there is sufficient evidence to support a determination that a disclosure does not satisfy the enablement requirement and whether any necessary experimentation is "undue." These factors include, but are not limited to:

the breadth of the claims, the nature of the invention, the state of the prior art, the level of one of ordinary skill, the level of predictability in the art, the amount of direction provided by the inventor, the existence of working examples, and the quantity of experimentation needed to make or use the invention based on the content of the disclosure. See also *Ex parte Forman*, 230 USPQ 546 (BPAI 1986).

The claims are broadly drawn to a method for diagnosing aggressive forms of cancer comprising providing a genetic sample from a test tumor sample, analyzing the expression of Wnt5a, and comparing said expression to the Wnt5a expression profile from a cluster of pair-matched tumor samples, wherein increased expression in the test sample compared to a tumor in the gene expression profile indicates that the test tumor sample is aggressive.

Thus, the claimed method necessarily includes the ability to diagnose any identify all forms of aggressive cancer by analyzing the expression of Wnt5a, including identifying *increased* expression of Wnt5a in the test tumor as compared to the cluster.

With regards to diagnosing increased aggressive cancers via analyzing expression of Wnt5a, the specification focuses on one particular type of cancer- malignant melanoma. For example, the specification teaches “one particularly useful marker gene in the diagnosis of aggressive form of malignant melanoma is Wnt5a” (para 40). The specification goes on to add that Wnt5a has been found to be up-regulated in lung, colon, and prostate carcinomas and melanomas.

However, one cannot extrapolate the teachings of the specification to the scope of the claims because the claims are broadly drawn to diagnosing aggressive forms of any and all types of cancer by observing increased expression of Wnt5A, and applicant has not enabled the diagnosis of all such tumors because there is insufficient guidance and or objective evidence that Wnt5A would predictably be expressed at higher levels in any all types of cancer. While the state of the art and the specification indicate that some types of cancer (i.e. lung, colon, prostate, melanoma) have up-regulated levels of Wnt5A, other types of cancer have shown the opposite. For example, Blanc *et al.* (Oncogene, 2005, Vol. 24, pp 1277-1283) teach that Wnt5a is downregulated in invasive ductal breast cancer (page 1278, column 1, 2<sup>nd</sup> para.). Further, in direct contrast to the claimed method, Blanc *et al.* teach that significantly reduced Wnt5A expression correlated with highly aggressive neuroblastoma (HR-NB). Also, Leris *et al.* (Anticancer Research, 2005, Vol. 25, 2A, abstract) compared the expression of Wnt5a in normal breast versus human breast cancer samples. The results indicated that the levels of Wnt5a mRNA

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were lower in the tumors than in normal tissues. Hence, to one of ordinary skill in the art, it would not be predictable nor would one reasonably expect that all aggressive forms of cancer would be successfully diagnosed by observing increased levels of expression of Wnt5A. This is because it is clear that not all tumors express high levels of Wnt5a.

Reasonable correlation must exist between the scope of the claims and scope of enablement set forth, and it cannot be predicted from the disclosure that the claimed method would be enabled for diagnosing any and all forms of aggressive cancer. Thus, based on the limited disclosure of Wnt5A expression and the art of record, it would appear that undue experimentation would be required to enable the claims as broadly written.

**Claim Objections:**

Claims 25, 27, and 29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

**Allowable Subject Matter:**

Claim 4 appears allowable.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary B. Nickol Ph.D. whose telephone number is 571-272-0835. The examiner can normally be reached on M-Th, 8:30-5:30; alternate Fri., 8:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Siew can be reached on 571-272-0787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Gary B. Nickol Ph.D.  
Primary Examiner  
Art Unit 1642

GBN

A handwritten signature in cursive script, appearing to read "Gary B. Nickol".

**GARY B. NICKOL, PH.D.  
PRIMARY EXAMINER**